

CLAIMS

1. A method to display user interface elements on a data processing system, the method comprising:  
automatically determining, based on a primary color, a plurality of secondary colors for the user interface elements; and  
displaying the user interface elements using the plurality of secondary colors.
2. A method as in claim 1, wherein the primary color and the plurality of secondary colors have substantially same Hue.
3. A method as in claim 1, further comprising:  
displaying a plurality of colors on a display device of the data processing system; and  
receiving user input selecting one of the plurality of colors as the primary color.
4. A method as in claim 3, wherein said determining comprises:  
selecting the plurality of secondary colors from a plurality of pre-designed colors according to the primary color.
5. A method as in claim 1, wherein said determining comprises:

computing color components of the plurality of secondary colors according to color components of the primary color.

6. A method as in claim 1, wherein said determining comprises:  
computing color components of one of the plurality of secondary colors based on color components of the primary color and color components of a plurality of pre-designed secondary colors that are associated respectively with a plurality of pre-designed primary colors.
7. A method as in claim 6, wherein the color components of the one of the plurality of secondary colors are discontinuous functions of the color components of the primary color.
8. A method as in claim 6, wherein the color components of the one of the plurality of secondary colors are continuous functions of the color components of the primary color; and, the method further comprises:  
selecting one from a plurality of candidates to color a user interface element, the plurality of candidates comprising the one of the plurality of secondary colors.
9. A method as in claim 1, further comprising:

determining which one of a plurality of regions in a color space is the primary color in.

10. A method as in claim 9, wherein said determining the plurality of secondary colors is performed based on a result of said determining which one of the plurality of regions in the color space is the primary color in.
11. A method as in claim 1, further comprising:  
generating an icon image for the user interface elements using at least one of the plurality of secondary colors.
12. A method as in claim 11, wherein said generating comprises:  
creating a plurality of icon images according to a plurality of image models,  
each of the plurality of image model being associated with one of a plurality of regions a color space; and  
mixing the plurality of icon images according to a position of the primary color in relation with the plurality of regions in the color space.
13. A method as in claim 12, wherein the plurality of regions comprises a dark color region and a bright color region; and said mixing is according to a measurement of distance to a boundary that separates the dark color region and the bright color region in the color space.

14. A method as in claim 1, wherein said displaying comprises:  
selecting one from candidates including at least one of the plurality of  
secondary colors to apply to one of the user interface elements.
15. A method as in claim 1, further comprising:  
displaying information from a plurality of calendars in a calendar interface;  
wherein the primary color is associated with one of the plurality of calendars;  
and  
wherein the user interface elements displayed using the plurality of  
secondary colors are associated with the one of the plurality of  
calendars.
16. A method as in claim 15, further comprising:  
selecting an arbitrary color as the primary color for the one of the plurality of  
calendars.
17. A machine readable medium containing executable computer program  
instructions which when executed by a data processing system cause said  
system to perform a method to display user interface elements on the data  
processing system, the method comprising:  
automatically determining, based on a primary color, a plurality of secondary  
colors for the user interface elements; and

displaying the user interface elements using the plurality of secondary colors.

18. A medium as in claim 17, wherein the primary color and the plurality of secondary colors have substantially same Hue.
19. A medium as in claim 17, wherein the method further comprises:  
displaying a plurality of colors on a display device of the data processing system; and  
receiving user input selecting one of the plurality of colors as the primary color.
20. A medium as in claim 19, wherein said determining comprises:  
selecting the plurality of secondary colors from a plurality of pre-designed colors according to the primary color.
21. A medium as in claim 17, wherein said determining comprises:  
computing color components of the plurality of secondary colors according to color components of the primary color.
22. A medium as in claim 17, wherein said determining comprises:  
computing color components of one of the plurality of secondary colors based on color components of the primary color and color components of a plurality of pre-designed secondary colors that are

associated respectively with a plurality of pre-designed primary colors.

23. A medium as in claim 22, wherein the color components of the one of the plurality of secondary colors are discontinuous functions of the color components of the primary color.
24. A medium as in claim 22, wherein the color components of the one of the plurality of secondary colors are continuous functions of the color components of the primary color; and, the method further comprises:  
selecting one from a plurality of candidates to color a user interface element,  
the plurality of candidates comprising the one of the plurality of secondary colors.
25. A medium as in claim 17, wherein the method further comprises:  
determining which one of a plurality of regions in a color space is the primary color in.
26. A medium as in claim 25, wherein said determining the plurality of secondary colors is performed based on a result of said determining which one of the plurality of regions in the color space is the primary color in.
27. A medium as in claim 17, wherein the method further comprises:

generating an icon image for the user interface elements using at least one of the plurality of secondary colors.

28. A medium as in claim 27, wherein said generating comprises:  
creating a plurality of icon images according to a plurality of image models,  
each of the plurality of image model being associated with one of a  
plurality of regions a color space; and  
mixing the plurality of icon images according to a position of the primary  
color in relation with the plurality of regions in the color space.
29. A medium as in claim 28, wherein the plurality of regions comprises a dark  
color region and a bright color region; and said mixing is according to a  
measurement of distance to a boundary that separates the dark color region  
and the bright color region in the color space.
30. A medium as in claim 17, wherein said displaying comprises:  
selecting one from candidates including at least one of the plurality of  
secondary colors to apply to one of the user interface elements.
31. A medium as in claim 17, wherein the method further comprises:  
displaying information from a plurality of calendars in a calendar interface;  
wherein the primary color is associated with one of the plurality of calendars;  
and

wherein the user interface elements displayed using the plurality of secondary colors are associated with the one of the plurality of calendars.

32. A medium as in claim 31, wherein the method further comprises:  
selecting an arbitrary color as the primary color for the one of the plurality of calendars.
33. A data processing system to display user interface elements, the data processing system comprising:  
means for automatically determining, based on a primary color, a plurality of secondary colors for the user interface elements; and  
means for displaying the user interface elements using the plurality of secondary colors.
34. A data processing system as in claim 33, wherein the primary color and the plurality of secondary colors have substantially same Hue.
35. A data processing system as in claim 33, further comprising:  
means for displaying a plurality of colors on a display device of the data processing system; and  
means for receiving user input selecting one of the plurality of colors as the primary color.



36. A data processing system as in claim 35, wherein said means for determining comprises:  
means for selecting the plurality of secondary colors from a plurality of pre-designed colors according to the primary color.
37. A data processing system as in claim 33, wherein said means for determining comprises:  
means for computing color components of the plurality of secondary colors according to color components of the primary color.
38. A data processing system as in claim 33, wherein said means for determining comprises:  
means for computing color components of one of the plurality of secondary colors based on color components of the primary color and color components of a plurality of pre-designed secondary colors that are associated respectively with a plurality of pre-designed primary colors.
39. A data processing system as in claim 38, wherein the color components of the one of the plurality of secondary colors are discontinuous functions of the color components of the primary color.

40. A data processing system as in claim 38, wherein the color components of the one of the plurality of secondary colors are continuous functions of the color components of the primary color; and, the data processing system further comprises:  
means for selecting one from a plurality of candidates to color a user interface element, the plurality of candidates comprising the one of the plurality of secondary colors.
41. A data processing system as in claim 33, further comprising:  
means for determining which one of a plurality of regions in a color space is the primary color in.
42. A data processing system as in claim 41, wherein the plurality of secondary colors is determined based on a result of determining which one of the plurality of regions in the color space is the primary color in.
43. A data processing system as in claim 33, further comprising:  
means for generating an icon image for the user interface elements using at least one of the plurality of secondary colors.
44. A data processing system as in claim 43, wherein said means for generating comprises:

means for creating a plurality of icon images according to a plurality of image models, each of the plurality of image model being associated with one of a plurality of regions a color space; and  
means for mixing the plurality of icon images according to a position of the primary color in relation with the plurality of regions in the color space.

45. A data processing system as in claim 44, wherein the plurality of regions comprises a dark color region and a bright color region; and the plurality of icon images are mixed according to a measurement of distance to a boundary that separates the dark color region and the bright color region in the color space.
46. A data processing system as in claim 33, wherein said means for displaying comprises:  
means for selecting one from candidates including at least one of the plurality of secondary colors to apply to one of the user interface elements.
47. A data processing system as in claim 33, further comprising:  
means for displaying information from a plurality of calendars in a calendar interface;

wherein the primary color is associated with one of the plurality of calendars;

and

wherein the user interface elements displayed using the plurality of  
secondary colors are associated with the one of the plurality of  
calendars.

48. A data processing system as in claim 47, further comprising:  
means for selecting an arbitrary color as the primary color for the one of the  
plurality of calendars.
49. A method of controlling a graphical user interface of a data processing  
system, the method comprising:  
presenting a range of colors which appear to vary in a substantially  
continuous manner;  
receiving a user input selecting a color from said range of colors;  
automatically determining, based on said color from said range of colors, a  
plurality of colors for a corresponding plurality of user interface  
elements;  
displaying said plurality of user interface elements with said plurality of  
colors.
50. A method as in claim 49, wherein said automatically determining is based  
upon a predetermined mathematical process, executed by said data

processing system, which selects said plurality of colors without user intervention.

51. A method as in claim 49, wherein said range of colors is presented as a color spectrum in a color wheel.
52. A method as in claim 49, wherein said plurality of user interface elements include at least one of:
  - a) window title bar;
  - b) text highlight color;
  - c) text;
  - d) control button;
  - e) window resize control; and
  - f) scheduled events in a calendar.
53. A method as in claim 49, wherein one of said plurality of user interface elements is displayed in said color from said range of colors.
54. A method as in claim 49, wherein at least one of said plurality of user interface elements is a control, which upon activation by a user, causes said data processing system to perform an action.

55. A machine readable medium containing executable computer program instructions which when executed by a data processing system cause said system to perform a method of controlling a graphical user interface of said data processing system, the method comprising:  
presenting a range of colors which appear to vary in a substantially continuous manner;  
receiving a user input selecting a color from said range of colors;  
automatically determining, based on said color from said range of colors, a plurality of colors for a corresponding plurality of user interface elements;  
displaying said plurality of user interface elements with said plurality of colors.
56. A medium as in claim 55, wherein said automatically determining is based upon a predetermined mathematical process, executed by said data processing system, which selects said plurality of colors without user intervention.
57. A medium as in claim 55, wherein said range of colors is presented as a color spectrum in a color wheel.

58. A medium as in claim 55, wherein said plurality of user interface elements include at least one of:
- a) window title bar;
  - b) text highlight color;
  - c) text;
  - d) control button;
  - e) window resize control; and
  - f) scheduled events in a calendar.
59. A medium as in claim 55, wherein one of said plurality of user interface elements is displayed in said color from said range of colors.
60. A medium as in claim 55, wherein at least one of said plurality of user interface elements is a control, which upon activation by a user, causes said data processing system to perform an action.
61. A data processing system of a graphical user interface, the data processing system comprising:
- means for presenting a range of colors which appear to vary in a substantially continuous manner;
  - means for receiving a user input selecting a color from said range of colors;

means for automatically determining, based on said color from said range of colors, a plurality of colors for a corresponding plurality of user interface elements;

means for displaying said plurality of user interface elements with said plurality of colors.

62. A data processing system as in claim 61, wherein the plurality of colors are automatically determined based upon a predetermined mathematical process, executed by said data processing system, which selects said plurality of colors without user intervention.
63. A data processing system as in claim 61, wherein said range of colors is presented as a color spectrum in a color wheel.
64. A data processing system as in claim 61, wherein said plurality of user interface elements include at least one of:
  - a) window title bar;
  - b) text highlight color;
  - c) text;
  - d) control button;
  - e) window resize control; and
  - f) scheduled events in a calendar.



65. A data processing system as in claim 61, wherein one of said plurality of user interface elements is displayed in said color from said range of colors.
66. A data processing system as in claim 61, wherein at least one of said plurality of user interface elements is a control, which upon activation by a user, causes said data processing system to perform an action.